CS525
ISFET pH Probe

CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

Campbell Scientific's CS525 pH probe provides reliable, accurate pH measurements that are fully temperature compensated. This probe makes general pH measurements in aqueous or semi-solid solutions, and can be submersed or inserted into tanks, pipelines, and open channels.

The CS525 uses SENTRON's high-tech, Ion Sensitive Field Effect Transistor (ISFET) semi-conductor as its pH-sensitive element, and includes a silver/silver chloride - potassium chloride reference system. The ISFET technology is the most powerful pH monitoring technology available today. This technology considerably reduces the number of acidic or alkaline errors in extreme pH conditions. It allows the CS525 to monitor pH in liquids containing high solids, aggressive chemicals, or biological materials that would clog or contaminate the junction of the traditional glass-bulb pH probes.

The CS525's rugged design makes it suitable for just about any liquid pH-monitoring application, from laboratory to harsh field applications. The probe's electronics are safely embedded in a durable PEEK body. Elimination of the glass-bulb removes the possibility of broken glass, making the CS525 more durable and safer to use.

Features/Benefits

- Innovative ISFET pH-sensing element used that makes better measurements in extreme pH conditions
- No clogging or contamination of junction
- Easily cleaned
- More rugged than the traditional glass electrode pH probes allowing the CS525 to be deployed in the field for longer time periods
- Compatible with all Campbell Scientific dataloggers[1] (including the CR200(X) series)
- Designed and manufactured under stringent quality control conditions in an ISO 9001 environment
- Each sensor individually tested
- CE compliant
- Fully temperature compensated

Questions • Research • Pricing
www.campbellsci.com/cs525

[1]The CS525-L ISFET pH Sensor is highly susceptible to ground looping and galvanic conditions. In many cases, the CS525 can be isolated by NOT grounding the datalogger to an earth ground. However, the most successful isolation technique to overcome these issues is to use a CWS900-series Wireless Sensor Interface. Please discuss your application with a Campbell Scientific applications engineer before purchasing the sensor.

Ordering Information

pH Probe

CS525-L ISFET pH Probe with user-specified cable length. Enter length, in feet, after the -L. Must choose a cable termination option (see below).

Cable Termination Options (choose one)

-PT Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.

-PW Cable terminates in a connector for attachment to a prewired enclosure.

-CWS Cable terminates in a connector for attachment to a CWS900-series interface. Connection to a CWS900-series interface allows this sensor to be used in a wireless sensor network.

Solutions

25587 pH4 Buffer Solution (500 ml container). Two or more different buffer solutions are required for calibration.

25586 pH7 Buffer Solution (500 ml container). Two or more different buffer solutions are required for calibration.

25588 pH10 Buffer Solution (500 ml container). Two or more different buffer solutions are required for calibration.

16349 KCl solution used for cleaning (4 oz container)

Accessories

7421 Split Mesh Cable Grip

VDIV2:1 2-to-1 Voltage Divider required when using a CR200(X)-series datalogger.

Specifications

pH Range: 0 to 14

Power Requirements: 4.5 to 5.5 Vdc

Current Consumption: 2 mA nominal

Measurement Time: 200 ms < $t_{67\%}$ < 500 ms

Output *(two output ranges are available)*[2]

Range A: 0 to +5000 mV; +2700 mV at pH7 and 25°C with a sensitivity of 270 mV to 330 mV/pH at 25°C

Range B: ±400 mV with a sensitivity of -45 mV to -50 mV/pH at 25°C

Accuracy: ±0.1 pH with two point calibration

Operating Temperature: 0° to 70°C

Allowed Water Pressure: 0 to 700 kPa (0 to 101.5 psi)

Maximum Cable Length: 300 m (1000 ft)

Cable Type: three-twisted pair, 24-AWG cable with Santoprene® jacket

Sensor Material: polyaryletheretherketone (PEEK)

Dimensions

Length: 190 mm (7.48 inches)

Diameter: 16 mm (0.63 inches)

Weight w/10 ft Cable: 318 g (11.2 oz.)

[2]*The output range used depends on which wires are connected to the datalogger. Refer to the manual for more information.*

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